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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/553,866

10/21/2005

Ingemar Berndtsson

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EXAMINER

XU, XIAOYUN

ART UNIT

PAPER NUMBER

4112

NOTIFICATION DATE

DELIVERY MODE

06/26/2008

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/553,866	<b>Applicant(s)</b> BERNDTSSON, INGEMAR	
	<b>Examiner</b> ROBERT XU	<b>Art Unit</b> 4112	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 October 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☒ Claim(s) 16 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 October 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>10/21/2005, 1/11/2008</u> .                                   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Summary***

1. This is the initial Office action based on the 10/553,866 application filed October 21, 2005.
2. Claims 1-16 are pending and have been fully considered.

### ***Claim Objections***

3. Claim 16 is objected to under 37 CFR 1.75(c) as being in improper form because Claim 16 depends on claims 6-15 and Claim 12 depends on Claims 6-11, a multiple dependent claim cannot depend from any other multiple dependant claim. See MPEP § 608.01(n). Accordingly, the claim 16 is not been further treated on the merits.

### ***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:  

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
5. Claims 1-5 and 8-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In regard to Claims 1-5, the term "scraper means" lacks adequate structure description. Therefore, the claims are indefinite.

In regard to Claims 8-9, the term "other of said bodies" does not specifically define which said body. Therefore, the claims are indefinite.

6. Claim 2 recites the limitation "said edge" in Claim 1. There is insufficient antecedent basis for this limitation in the claim.

7. Claim 4 recites the limitation "said surface" in Claim 3. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

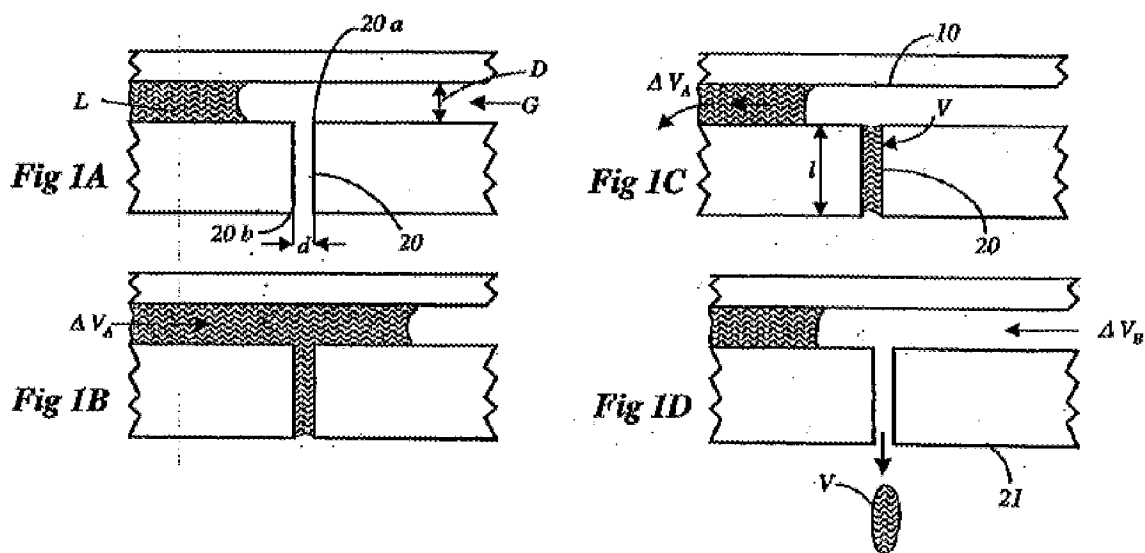
(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 1-4, 6-7, and 12-15 are rejected under 35 U.S.C. 102(e) as being anticipated by RENAUD [US 2003/0099577].

In regard to Claim 1, RENAUD teaches a method to separate (dispense) at least one accurately controlled small quantity of liquid sample from relatively larger undefined volume of same sample (abstract). The method is characterized by the steps of:

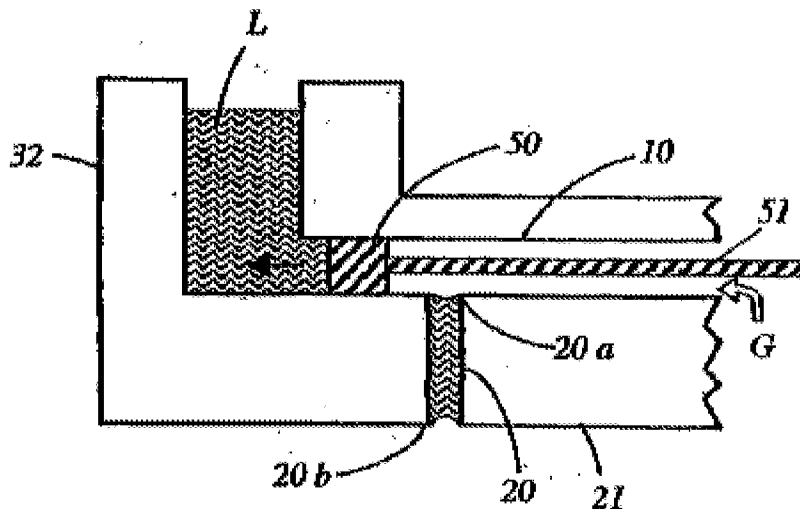
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providing in a first surface (10) of a first body (21) at least one cavity (capillary duct 20 in Figure 1A) having a small defined volume (see Figure 1A, [0041]-[0042]);



- applying relatively large volume of sample onto the surface (10) and into the cavity (capillary duct 20 in Figure 1B, [0045]);
- relatively moving first body and a scraper means (gas in Figure 1C, [0046] or in another embodiment, a piston 50 in Figure 3, [0054]) push the relatively large volume sample from the surface 10 and leaving the small defined volume  $V$  sample in the cavity (capillary duct 20, Figure 1C).

The cavity and the capillary duct both have defined internal space for holding defined volume of liquid.



**Fig 3**

In regard to Claim 6, RENAUD discloses a device for separating (dispensing) at least one accurately controlled small quantity of liquid sample from relatively larger undefined volume of same sample (abstract). The device including a first body (21 in Figure 3) and a second body (50 in figure 3) movable relative to one another ([0054]), Characterized in

- the first body (50 in figure 3) has at least one cavity (capillary duct 20 in figure 3) in a surface(10) having defined volume ([0054]).
- The second body (50 in Figure 3) includes an edge slidable along the surface (10) and over the cavity (capillary duct 20) upon relative movement of the bodies ([0054]).

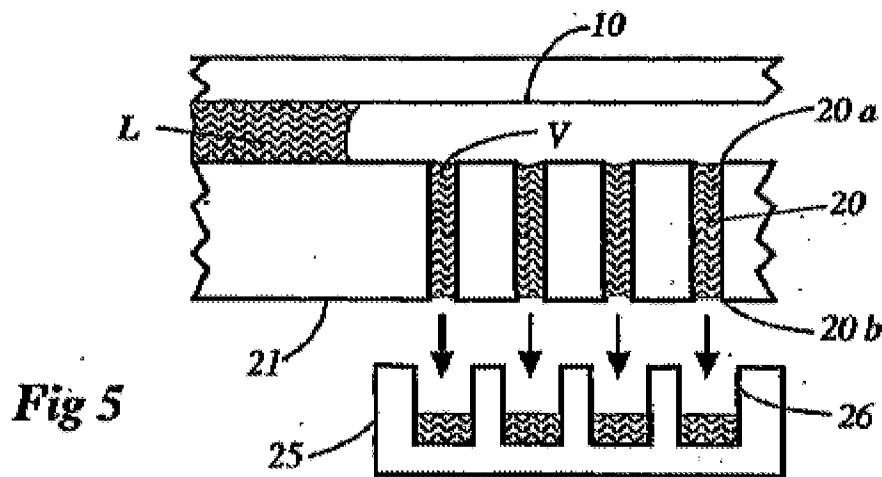
- The arrangement being such that first depositing the undefined volume of the sample on the surface (10) and fill the cavity (capillary 20 in Figure 3) and then separating the excessive volume of the sample from the accurately defined volume of the sample in the cavity (capillary 20 in Figure 3, [0054], [0055], [0056]).

In regard to Claims 2 and 7, RENAUD does not specifically mention the term “edge”. But edge exists at the start of surfaces. The piston 50 (Figure 3), a second body, has an edge which is slidable relative to the first body (21 in figure 3) ([0054]).

In regard to Claims 3-4, RENAUD teaches that before relatively large volume of the sample is applied to the surface 10, the sample is in a sample receiving surface (the surface of reservoir 32 in figure 3). The surface of the reservoir is connected with the surface 10 (Figure 3).

In regard to Claims 12-14, RENAUD teaches flushing the define volume sample by applying abrupt gas pressure. The device has the channel to direct the flow of gas or liquid (Figure 3, [0056]). The piston 50 is in Figure 3 position, the large volume sample is driven back towards the reservoir 30. The first channel is directed toward the capillary the second channel is directed from the capillary duct (Figure 3).

In regard to Claim 15, RENAUD teaches using receptacle 25 for collecting the flushing out solution as shown in Figure 5. The collection receptacles inherently contain solutions.



**Claim Rejections - 35 USC § 103**

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

12. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over RENAUD [US 2003/0099577].



In regard to Claim 5, RENAUD does not specifically teach diluting the defined volume of the sample. However, sample dilution is a routine procedure in many sample analysis protocols. When sample dilution is desired in a protocol, certain amount of solution instead of gas can be used to flush the sample out of the capillary 20 ([0056], Figure 1D). This fluid or solution substitution according to individual protocol is within the capability of one of ordinary skill in the art at the time of the invention.

13. Claims 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over RENAUD [US 2003/0099577] in view of FAWCETT [US Patent No. 6,240,984].

In regard to Claims 8-9, RENAUD does not specifically teach sealing means. However, sealing is commonly used in many liquid handling device. For example, FAWCETT teaches using seals in liquid handling devices (abstract). Seals are flexible and easy to fit to the contacting surface and to reduce the wear out of the contacting surface when sealing and the surface have relative movement (FAWCETT Col. 5, lines 55-59). It is cheaper to replace the sealing than replace the contact surface. With respect to RENAUD, a sealing can be used between piston 50 and the surface 10 to provide better seal and to reduce the wear of the surface 10. It is within the capability of one of ordinary skill in the art to implement the required sealing to the piston 50 contacting the surface 10 of the first body 21 (Figure 3). This implementation would have been obvious to a person of ordinary skill in the art at the time of the invention based on the teaching of FAWCETT.

In regard to Claim 10-11, the function of the aperture on the seal in the applicant's device is to create a passage for the dilution solution to communicate with the defined volume sample in the cavity through the aperture. FAWCETT teaches that the seal has apertures 112 to create the passage for the probes (Figure 4, Col. 6, lines 6-8) and the seal is wide enough to seal the bottom of the probe foot (Col. 5, lines 57-59). At the time of the invention, it would have been obvious to one of ordinary skill in the art to have a wide enough seal with an aperture in RENAUD's device with reasonable expectation that this would create a passage for fluid to the capillary duct.

### ***Conclusion***

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROBERT XU whose telephone number is (571)270-5560. The examiner can normally be reached on Mon-Thur 7:30am-5:00pm, Fri 7:30am-4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Barbara Gilliam can be reached on (571)272-1330. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

RX

/Barbara L. Gilliam/  
Supervisory Patent Examiner, Art Unit 4128